

# Laser Ranging Ground System

- **Progress**
  - **One-way system delay measurement at NGSLR has been completed and documented in February.**
  - **Successful independent timing test at NGSLR with Instrument Scientist was completed 1/12/2009.**
  - **End to End test with LOLA performed 1/21/2009. Everything looked good except for some data transfer and some lingering clock issues.**
  - **LOLA science team has independently verified that the NGSLR laser is being fired so that the pulses will arrive at LRO when the LOLA Earth Window is open.**
  - **Requirements Verification document completed and turned in.**
  - **SCLK subroutines and documentation (for ILRS participating stations that will fire synchronously) have been delivered and are in use.**
  - **Herstmonceux and Zimmerwald have signed Agreements and are flowing test LR data, as is MLRS. Wettzell proposal has been selected but Agreement not yet finalized.**
  - **Successful LRO test with Hersmonceux, Zimmerwald, MLRS and NGSLR occurred on 3/25/2009.**
  - **New computer and timing card (which will not affect SLR OPS in any way) are in testing at MOBLAS-7. MOBLAS-5 and MOBLAS-6 will use this configuration to range to LRO.**
  - **Training for operators is in progress.**
- **Risks and Issues**
  - **NENS to SCNS contract transfer occurs right at the beginning of LRO-LR operations. Could result in substantial down-time for NGSLR.**

# Global LR Ground Stations

	Scheduling & <u>Synch?</u>	FireRate	in Earth Window	Events/second	<u>Participation</u>
NGSLR	YES	28Hz	28		Prime
MLRS	NO	10Hz	2 to 4		Secondary
Zimmerwald	YES	28Hz		28	
	Agreement signed				
Herstmonceaux	YES	7 or 14Hz	7 or 14		Agreement signed
Wettzell	Maybe	7 or 10Hz	2 to 7		Accepted
MOBLAS-5	NO	5Hz	1 to 2		Will participate
MOBLAS-6	NO	5Hz	1 to 2		Will participate

- Instrument Scientist (Xiaoli Sun) and LR Manager (Ron Zellar) are currently working with MLRS on a safe configuration for LRO.

- Safe configuration for Wettzell determined. Need to complete Agreement.